

REMARKS

This Amendment and Response is in response to the *final* Office Action, dated September 8, 2004, where the Examiner has rejected claims 1-11. By the present amendment, claims 1-3, 7 and 11 have been cancelled, claims 4, 9 and 10 have been amended, and new claims 33-34 have been added.. After the present amendment, claims 4-6, 8-10 and 33-34 are pending in the present application. Reconsideration and allowance of pending claims 4-6, 8-10 and 33-34 in view of the above amendments and following remarks are respectfully requested.

A. Rejection of Claims 1, 3-8, and 11 under 35 USC §102(b)

The Examiner has rejected claims 1, 3-8, and 11 under 35 USC §102(b) as being anticipated by U.S. Patent Number 5,238,856 to Tokumitsu ("Tokumitsu"). For the reasons discussed below, Applicant respectfully submits that independent claim 4, as amended, is patentably distinguishable over Tokumitsu.

As explained on page 11, lines 9-18 of the present application:

“One undesirable artifact of the exposure process is the relatively poor resolving power of the micro-lens suitable material itself. This means that as the micro-lens suitable material is subjected to a lens formation pattern, some amount of bleeding will occur. The lens formation pattern must accommodate this inherent bleeding phenomenon. Accommodation of the bleeding may be accomplished by making the rectangular shapes 20 somewhat smaller than the outer perimeter of the boundary region 5 encompassing each active sensing region 10. This setback precludes the formation of micro-lenses that occupy the entire area defined by the boundary region 5. This results in a diminished efficiency for any micro-lens array fabricated using traditional techniques.” (Emphasis added.)

To this end, the present application utilizes a novel process wherein the micro-lenses are formed in two or more stages, while as described in conjunction with Fig. 6 of the present application, due to the bleeding phenomenon that occurs during processing of the micro-lens

suitable material deposited on the semiconductive substrate, a setback 60 is introduced at the boundary of the micro-lenses to ensure that the micro-lens suitable material will form distinct islands after any unwanted material is removed. (Page 12, lines 18-27.) Furthermore, the present application reads:

Further distinguishing the present invention according to this example of embodiment, each of these islands of micro-lens suitable material occupies an area within the boundary region perimeter that is larger than any exposure resolution setback ordinarily associated with imparting lens formation patterns onto the micro-lens suitable material in a single pass. (Page 7, lines 8-12.)

According to this example embodiment, each island of micro-lens suitable material occupies an area within a boundary perimeter surrounding the active region that is greater than that associated with imparting lens formation patterns onto the micro-lens suitable material in a single pass. (Page 7, lines 24-27.)

Accordingly, claim 4 of the present application has been amended to recite “wherein the first lens formation pattern includes a boundary for each of a first plurality of micro-lenses to be formed, and wherein the first lens formation pattern further includes a first setback from the boundary for each of the first plurality of micro-lenses to be formed; ... wherein the second lens formation pattern includes a boundary for each of a second plurality of micro-lenses to be formed, and wherein the second lens formation pattern further includes a second setback from the boundary for each of the second plurality of micro-lenses to be formed.”

However, the cited references of record do not disclose, teach or suggest such setback. In fact, for example, Tokumitsu teaches away from introducing such setback by requiring that the shapes of the condenser lens, e.g. the corner angles of the lens being rounded off. (Col. 5, lines 14-20.)

For the foregoing reasons, Applicant respectfully submits that the present invention as defined by independent claim 4, as amended, is not taught, disclosed, or suggested by Tokumitsu. Thus, independent claim 4 is patentably distinguishable over Tokumitsu. As such, the claims depending from amended independent claim 4 are, *a fortiori*, also patentably distinguishable over Tokumitsu for at least the reasons presented above and also for additional limitations contained in each dependent claim.

B. Rejection of Claims 2, 9, and 10 under 35 USC §103(a)

The Examiner has rejected claims 2, 9, and 10 under 35 USC §103(a) as being obvious with respect to Tokumitsu in view of U.S. Patent Number 5,604,077 to Kono, et al. ("Kono"). Applicant respectfully submits that claim 2 has been cancelled by the present amendment and claims 9 and 10 depend from independent claim 4 and thus, claims 9 and 10 should be allowed at least for the same reasons discussed above in conjunction with patentability of independent claim 4.

C. New Claims 33 and 34

By the present amendment, claims 33 and 34 have been added. Claim 33 reads "wherein the first setback from the boundary is less than a setback for a single pass micro-lens formation method." Claim 34 reads "wherein the second setback from the boundary is less than a setback for a single pass micro-lens formation method." It is respectfully submitted that claims 33 and 34 should be allowed, because the cited references fail to show the claimed elements of claims 33

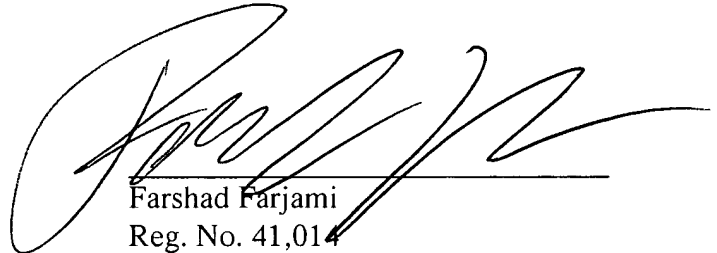
and 34. Further, claims 33 and 34 should be allowed at least for the reasons stated above, because they depend from claim 4.

D. Conclusion

For all the foregoing reasons, an early Notice of Allowance directed to claims 4-6, 8-10 and 33-34 pending in the present application is respectfully requested.

Respectfully Submitted,
FARJAMI & FARJAMI LLP

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Farshad Farjami
Reg. No. 41,014

FARJAMI & FARJAMI LLP
26522 La Alameda Ave., Suite 360
Mission Viejo, California 92691
Telephone: (949) 282-1000
Facsimile: (949) 282-1002

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Christina Carter
Name

Christina Carter
Signature